C.T.M. MOBILITY SCOOTER

6-Series Instruction Booklet

HS-665 / HS-666

HS-686

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INTRODUCTION

Thank you and congratulation on purchasing your new C.T.M. Mobility Scooter. It is designed to provide you with transportation ability indoors and outdoors.

We pride ourselves on providing safe and comfortable products. Our goal is to ensure your complete satisfaction with our product. We are certain that you will enjoy your C.T.M. mobility scooter.

Please read and observe all warning and instruction provided in the owner's manual before operating this scooter. Also, retain this booklet for future reference.

If you have any questions, you can contact:

C.T.M.HOMECARE PRODUCT, INC.
13815 Magnolia Ave. #B, Chino CA 91710
Toll Free : 1-866-466-8168 Tel : 909-590-1388 Fax : 909-590-3365
E-Mail : ctm@ctmhomecare.com http : //www.ctmhomecare.com

or your local dealer:

IMPORTANT PRECAUTIONS

· Only one person at a time could ride a C.T.M. Mobility Scooter.

· Maximum load is 160 kgs/ 350 pounds.

· Turn key off before getting on or off.

· Always drive carefully and be aware of others using the same area as yourself.

· Always use pedestrian crossings wherever possible. Take extreme care when crossing roads.

· Do not drive on slopes exceeding a 12 degree and take extreme care when turning on slope.

· Do not use full power when turning to sharp corner.

· Take great care and low speed when backing up, riding downhill, or on uneven surface, and climbing curb.

· Scooter may not operate well in high humidity.

· If you are caught in rain, it is handy to carry a scooter canopy. It offers complete protection for yourself scooter.

· Never put scooter in neutral when staying on slopes.

· Follow traffic laws when riding outside.

Electromagnetic Interference (EMI)

CAUTION: It is very important that you read this information regarding the possible effects of Electromagnetic Interference on your motorized scooter.

Powered wheelchairs and motorized scooters may be susceptible to electromagnetic interference (EMI), which is inccterfering electromagnetic energy (EM) emitted from sources such a radio stations, TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones. The interference (from radio wave sources) can cause the motorized scooter to release its brakes, move by itself, or move in unintended directions. It can also permanently damage the motorized scooter control system. The intensity of the interfering EM energy can be measured in volts per meter (V/m). Each motorized scooter can resist EMI up to certain intensity. This is called its "immunity level." The higher the immunity level, the greater the protection. At this time, current technology is capable of achieving at least a 20 V/m immunity level, which would provide useful protection from the more common sources of radiated EMI. This immunity level of this motorized scooter model is not known.

There are a number of sources of relatively intense electromagnetic fields in the everyday environment. Some of these sources are obvious and easy to avoid. Others are not apparent and exposure is unavoidable. However, we believe that by following the warnings listed below, your risk to EMI will be minimized.

The sources of radiated EMI can be broadly classified into three types：

1.Hand-held portable transceivers (transmitters-receivers) with the antenna mounted directly on the transmitting unit. Examples include: citizens band (CB) radios, alkie talkie," security, fire, and police transceivers, cellular telephones, and other personal communication devices.

⚠ **Some cellular telephones and similar devices transmit signals while they are ON, even when not being used;**

2.Medium-range mobile transceivers, such as those used in police cars, fire trucks, ambulances, and taxis. These usually have the antenna mounted on the outside of the vehicle; and

3.Long-range transmitters and transceivers such as commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios.

⚠ **Other types of hand-held devices, such as cordless phones, laptop computers, AM/FM radios, TV sets, CD players, and cassette players, and small appliances such as electric shavers and hair dryers, so far as we know, are not likely to cause EMI problems to your motorized scooter.**

Motorized Scooter Electromagnetic Interference :

Because EM energy rapidly becomes more intense as one moves closer to the transmitting antenna (source), the EM fields from hand-held radio wave sources (transceivers) are of special concern. It is possible to unintentionally bring high levels of EM energy very close to the motorized scooter control system while using these devices. This can affect motorized scooter movement and braking. Therefore, the warnings listed below are recommended to prevent possible interference with the control system of the motorized scooter.

Warnings :

Electromagnetic interference (EMI) from sources such as radio and TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones can affect motorized scooters. Following the warnings listed below should reduce the chance of unintended brake release or motorized scooter movement which could result in serious injury.

1. Do not operate hand-held transceivers (transmitters-receivers), such as citizens band (CB) radios, or turn ON personal communication devices, such as cellular phones, while the motorized scooter is turned ON;

2. Be aware of nearby transmitters, such as radio or TV stations, and try to avoid coming close to them;

3. If unintended movement or brake release occurs, turn the motorized scooter OFF as soon as it is safe;

4. Be aware that adding accessories or components, or modifying the motorized scooter, may make it more susceptible to EMI.

> ⚠ **There is no easy way to evaluate their effect on the overall immunity of the motorized scooter and**

5. Report all incidents of unintended movement or brake release to the distributor listed on the inside front cover of this manual. Note whether there is a source of EMI nearby.

Important Information :

1. 20 volts per meter (V/m) is a generally achievable and useful immunity level against EMI (as of May 1994). The higher the level, the greater the protection.

2. The immunity level of this motorized scooter model is 20 (V/m).

IDENTIFICATION OF PARTS

The C.T.M. Mobility Scooter is an indoor/outdoor scooter that provides transportation for a disabled or elderly person.

Rearview Mirror
The full lighting system consists of headlights, taillights and both front and rear turn signals.
Thumb Lever
Tall Back Luxury Swivel Seat - Sliding Adjustment
Flip-Up Armrests- Width Adjustable
Tiller Angle Adjustment
Seat Rotation Lever
Front Bumper
Rear Bumper
Rear Coil-over Suspension

Figure 1 - HS-686 Front View

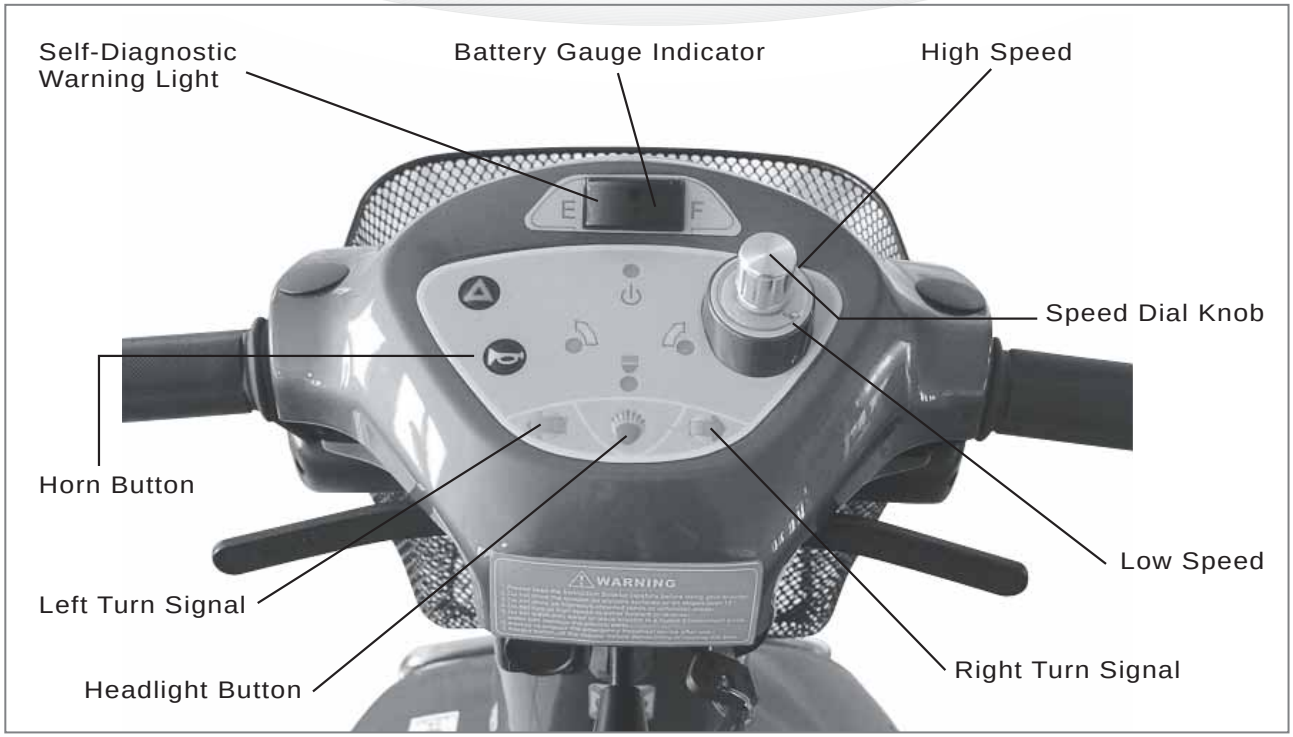


Figure 2 - HS-686 Top Control Panel

Function of parts :

Thumb Levers :
Pushing right thumb lever moves scooter forward. Pushing the left thumb lever moves scooter backward. Releasing both engages automatic brake.

Seat Adjustment :
Seat Control Slide : lift up lever under front edge of seat base to move forward and backward.
Seat Rotation Lever : push lever back to rotate seat; push forward to lock seat in position.

Tiller Angle Adjustment Lever :
Push lever down to adjust, release to lock Tiller Angle Adjustment in comfortable angle.

High/Lo Speed Switch :
When High/Lo Speed Switch is in High position, scooter performs in normal. If it is in the Lo position, the scooter travels in half of normal speed which is convenient for side-walk use.

Rear Cover :
Protects batteries from damage.

Anti-tip device :
Helps keep the scooter from tipping over.

Free-Wheeling Lever :
When lever is in N (Neutral) position, scooter can be moved without power.
When lever is in D (Drive) position, scooter can be driven. Normal position is D.

View of the Control Panel at top of steering column :

Self Diagnostic Warning Light:
Flashing indicates problems within scooter. See page 14 for more information.

Battery Gauge Indicator:
This light is yellow. Below it are three color ranges: red, yellow and green. When all lights are on batteries are fully charged. When light is on, only in red, or red and yellow areas, the batteries need to be recharged.

Batteries:
Two 12 volt sealed batteries.

Battery charger:
The battery charger is a 24 volt, 5 amp, constant current charger.

Accessories:
These can be ordered from your local distributor.
- Additional Mirror
- Rear basket
- Storage cover
- Cane holder

OPERATING YOUR SCOOTER

- **all electrical connections are firmly attached**
- **adjust seat height and location**
- **adjust tiller to comfortable position**

1. Before operating your scooter, check the following:
   - free-wheeling device on D
   - speed dial is at the turtle picture.

2. Sit on scooter and turn on key, all battery gauge LED lights should be lighting the green, yellow, and red color zones. The Self-Diagnostic Warning Light should not be blinking.

3. When your hands rest comfortably on handlebars, the thumb levers should be within easy reach. The right lever moves scooter forward, the left one moves it backward. When you release both levers scooter stops.

4. Steer scooter by turning the whole tiller toward the way you want to go.

5. Practice driving where there is no obstacles. Start at the slowest speed and drive forward and backward; make some turns. As you get more comfortable you can increase speed by turning the speed dial toward picture of rabbit.

6. Keep in mind these rules:
   - Release thumb levers and allow scooter to stop completely before changing from forward to reverse, or reverse to forward.
   - When turning to corner, swing front wheels widely for back wheels will turn more tightly.
   - Drive in low speeds when reversing, riding downhill, over ramps, and curb, or on uneven surface.
   - Ride the scooter only where it is safe for walking.

7. If the Power Reserve Indicator lights only in red or red and yellow zones, you should plan to recharge batteries very soon.

8. If scooter stops, locate circuit breaker on rear unit. Push it DOWN and try driving again.

9. When you are finished riding, turn off the key before getting off.

10. If you are finished riding for the day, immediately recharge the batteries. See Charging batteries, page 12.

Other operating information :

Hill climbing :

You may need to use a higher speed. Turn to lower speed before going downhill.

Curb climbing :

Approach slowly at right angles to the curb. Do not attempt greater than a 2" curb.

If Self-Diagnostic Warning Light starts to blink, identify the problem from chart on page 14 and take action.

If the scooter breaks down and must be moved, get off scooter, push engage Free Wheeling Lever to N, push scooter to a safe location, and then move the lever back to D.

ASSEMBLING YOUR SCOOTER

No tools are necessary. A screwdriver is needed to adjust seat height after assembly. To assemble C.T.M. Mobility Scooter you should have the three scooter parts : front. section, rear section and seat. You will also need two batteries and a battery charger.

Follow these steps:

Use the Tiller Angle Adjustment Lever to move the Tiller Angle Adjustment up out of the way.(See Fig. 3)

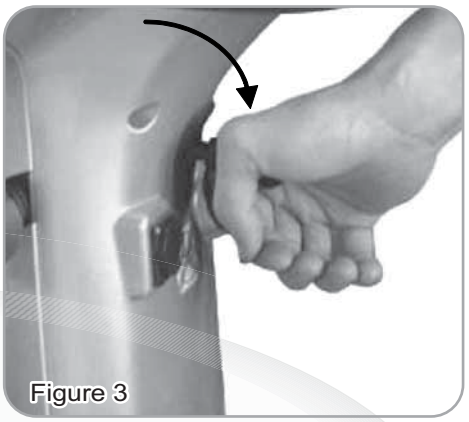


Figure 3

Connect front and rear sections by linking latching hook (A) to pin (B).(See Fig. 4)
Pluging the two wire connectors (C)between the front and rear sections.(See Fig. 5)

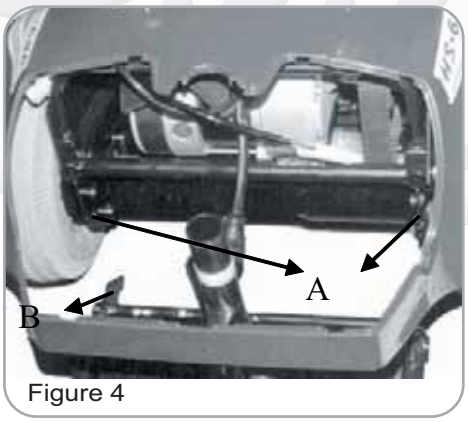


Figure 4

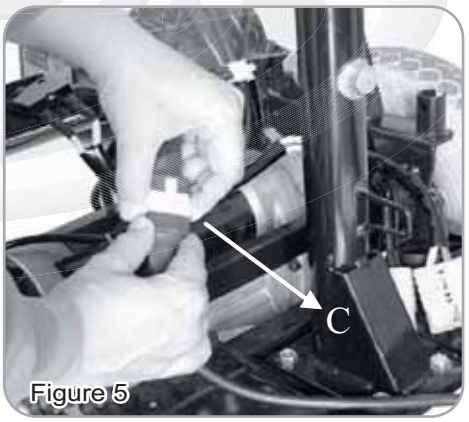


Figure 5

Place batteries, one on each side of the seat post.(See Fig. 6)
Attach the power plugs (D).(See Fig. 7)

Figure 6

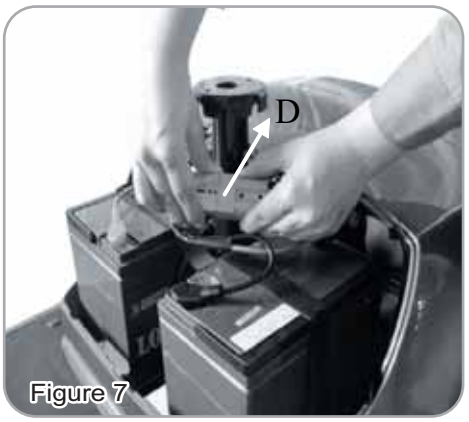


Figure 7

Place battery cover over batteries.(See Fig. 8)
Loosen Seat Rotation Lever (E) counterclockwise. Place seat on seat post. Tighten Lever (E) again by turning clockwise. Lock Seat Control Lever on bottom of seat before sitting down.(See Fig. 9)

Figure 8

Figure 9

Attach Front Basket. Adjust Seat Height: If the seat height is not correct, remove seat from scooter. Use a screwdriver to raise or lower the seat. Remount seat on seat post. Adjust Tiller Angle position: Use the Tiller Angle Adjustment Lever to adjust the tiller to a comfortable position.

DISASSEMBLING YOUR SCOOTER

Taking apart your scooter enables you to save space when keeping it in storage or to carry it along in your vehicle when going away from home. Having scooter disassembled is easier than ever since no tools are required.

Please follow these steps :
Seat is removable by releasing the Seat Adjusting Lever (F) and then lift off. (See Fig. 10)
Rear Shroud Cover is removable by lifting up. (See Fig. 11)

Figure 10

Figure 11

Then disconnect Rear Turnsignal Wire. (See Fig. 12) and remove front Battery Cover. (See Fig. 13)

Figure 12

Figure 13

Unplug Battery Wire (See Fig. 14) and untie Battery Fixing Velcro to remove Batteries. (See Fig. 15)

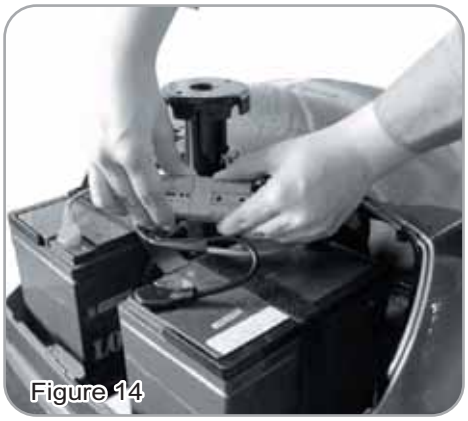


Figure 14

Figure 15

Rear Shroud is removable by lifting the Rear Shroud up. (See Fig. 16)
Disconnect Wire Harness. (See Fig. 17)

Figure 16

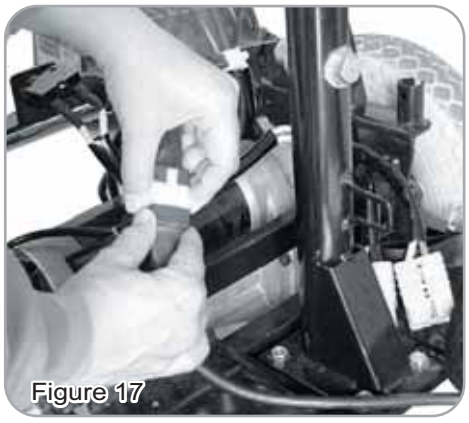


Figure 17

Release two Guide Pins to separate Front and Rear Sections. (See Fig. 18)
With one hand on rear frame and other on seat post as handheld, detach Front and Rear Sections. (See Fig. 19)

Figure 18

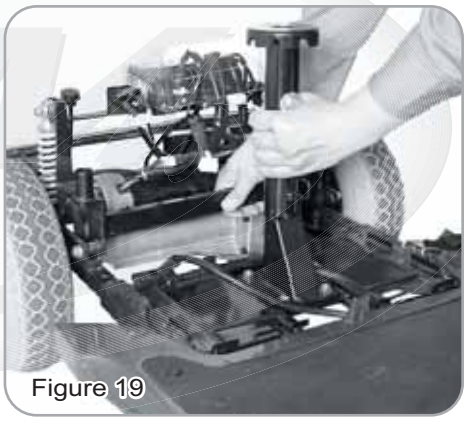


Figure 19

By removing the front basket and adjusting the tiller down by using the Tiller Angle Adjustment Lever you should be able to place all parts in the trunk and part of the Rear Seat.(See Fig. 20 & 21 & 22)

Figure 20

Figure 21

Figure 22

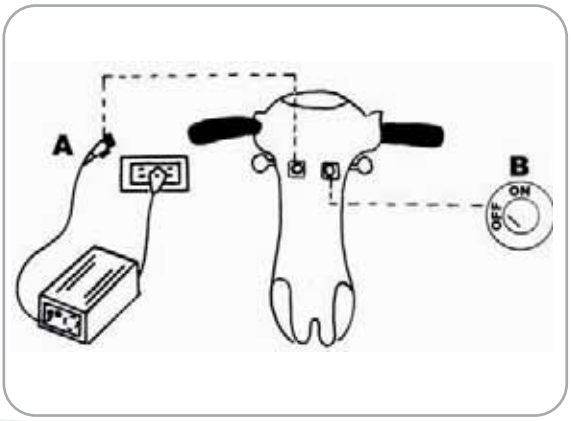
CHARGING THE BATTERIES

Batteries must be charged before using the scooter for the first time and should be recharged after each day use. You will need the scooter and the battery charger.

Each country may supply different charger. The charging procedure may be different from below.

If you require more details, please contact your authorized dealer.

Be sure the scooter key is in the OFF position



1.Insert battery charger cord into the charger connector on the charger output. Refer to above figure for correct position

2.Plug the other end of the battery charger cable into a standard electrical outlet.

3.Turn the power on. Normally, The LED (Power) Light will turn on when electric current passes.

4.Charging starts. During charging, LED (Charge) will indicate orange light, when it turns to green light, that means well-charged.

5.LED indication
- · LED(POWER) - GREEN LIGHT ON : Power On.
- · LED(CHARGE) - ORANGE LIGHT ON : Charging / GREEN LIGHT ON : Fully Charged

6.Charger Trouble Shooting

(A)If LED (POWER) light is off
- · Check the input voltage (115V/230V) is the same as you adjust.
- · If light is still off, please check and repair the battery charger.

(B)If LED (CHARGE) light is off
- · Check to see clips connection is correct.
- · If the battery is fully charged, the LED (CHARGE) light will be off.
- · If light is still off, the battery may be defective.

(C)If ORANGE light can turn to GREEN
- · The battery can not be charged. Please check and recover it.

(D)If ORANGE light turns to GREEN immediately
- · Check to see the battery is fully charged, if not, The battery may be defective Check and recover it.

The time needed to recharge will vary depending on the depletion of the batteries. Charging for longer than necessary will not harm the batteries. They can not be overcharged.

CARE AND MAINTENANCE

· **Cleaning your scooter**

Your scooter can be cleaned with a dry cloth. Do not use water because of electrical connections.

· **Maintaining your scooter**

All maintenance and repair of your scooter should be done by an authorized dealer.

· **Storing your scooter**

Between uses, your scooter is best stored at room temperature in a dry area.

TROUBLESHOOTING

Here are some suggestions about solving problems you may have with your scooter. There is a Self-Diagnostic Warning Light on the Control Panel. To check the Self-Diagnostic Warning Light, turn on the key and count the number of blinks on the Warning Light.

Number of Flashes	Problem	Solution
1	Battery needs recharging	Recharge the batteries soon.
2	Battery voltage too low to operate scooter	Must recharge before using. Check battery condition and connections.
3	Battery voltage too high	Check battery condition and connections. Contact your authorized dealer to check your battery charger.
4	Short in motor	Contact your authorized dealer.
5	Brake malfunction	Contact your authorized dealer.
6	Thumb lever not in neutral	Contact your authorized dealer.
7	Thumb lever malfunction	Contact your authorized dealer.
8	Motor problems	Contact your authorized dealer.
9	Other internal errors	Contact your authorized dealer.

During charging, if light on the charger does not turn to green: Contact your authorized dealer.

Scooter will not move when key is turned on :

1. Check Power Reserve Indicator on control panel. It should be light in the green, yellow, and red zones.
2. Check Self-Diagnostic Warning Light. It should be steady. If it is flashing, see above chart for problem identification.
3. Check all electrical connections to be sure they are tight.
4. If none of above correct the problem, contact your authorized dealer.

Summay :

Avoid sources of Electromagnetic Interference because they may affect the scooter.

Assembly and disassembly :

Assemble completely before riding.

Always disassemble before transporting in a car.

Charge batteries after each use.

Safety Rules :

- Turn key OFF before getting on or off.
- Allow scooter to stop before changing from forward to reverse.
- Use low speeds when backing up riding downhill, or on uneven surfaces, and climbing curd.
- Do not turn suddenly at high speed.
- Do not use on slopes of 12 degree
- Avoid uneven ground, tall grass, or slippery surfaces.
- Operate only where it is safe to walk.
- Follow all traffic laws.

SPECIFICATION

SPECIFICATIONS	HS-665	HS-666	HS-686
Overall Length	47.8"	47.8"	52.8"
Overall Width	24.6"	24.6"	24.6"
Overall Height	39"	39.5"	39.4"
Wheels: Front	10"	10"	11"
Wheels: Rear	11"	11"	11"
Weight w/ Batteries	190 lbs	192 lbs.	210 lbs
Max. Speed	5 mph	5 mph	5 mph
Weight Capacity	350 lbs	350 lbs	350 lbs
Ground Clearance	2"	2"	2"
Grade Climbable	12 degree	12 degree	12 degree
Curb Climbing	2"	2"	2"
Turning Radius	41"	41"	56.3"
Suspension	Rear	Rear Wheels	Rear
Brake	Electro-Mechanical	Electro-Mechanical	Electro-Mechanical
Seat Type	Tall Back Luxury SwivelSeat-Sliding Adjustment		
Seat Width	19"	19"	19"
Motor Size	500W 3400r.p.m	500W 3400r.p.m	500W 3400r.p.m
Battery Size	(2) 12V . 36Ah	(2) 12V.36Ah	(2) 12V . 36Ah
Battery Weight	55 lbs	55 lbs	55 lbs
Travel Range	14.7 Miles	14.7 Miles	15 Miles
Battery Charger	5A Off Board	5A Off Board	5A Off Board
Electronics	On/Off Key Switch, Battery Level Indicator, Speed Control Knob		

*Subject to change without notice. (Issue A 07/02/2014)